Fig. 1

Study of the release of DNA at pH 5.0

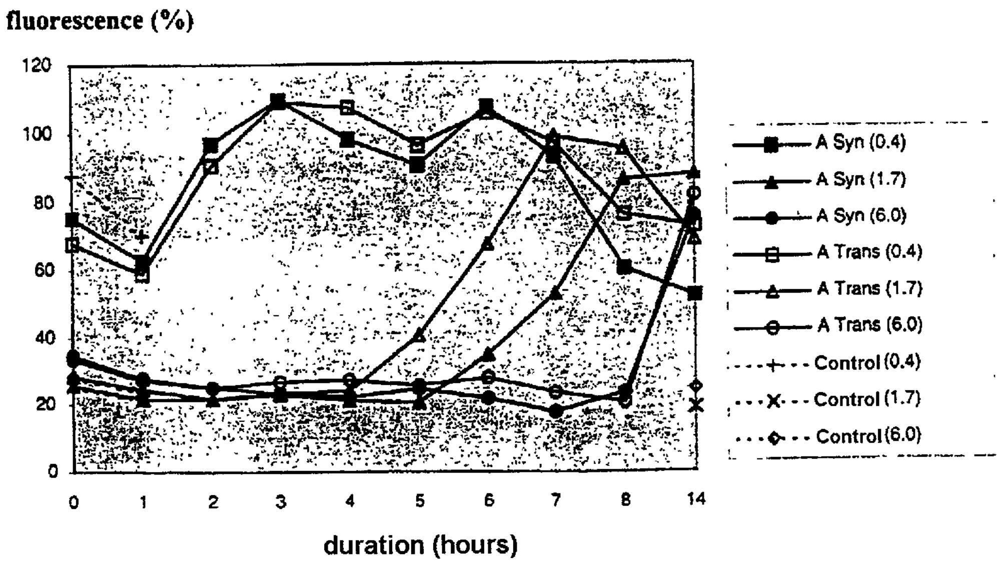
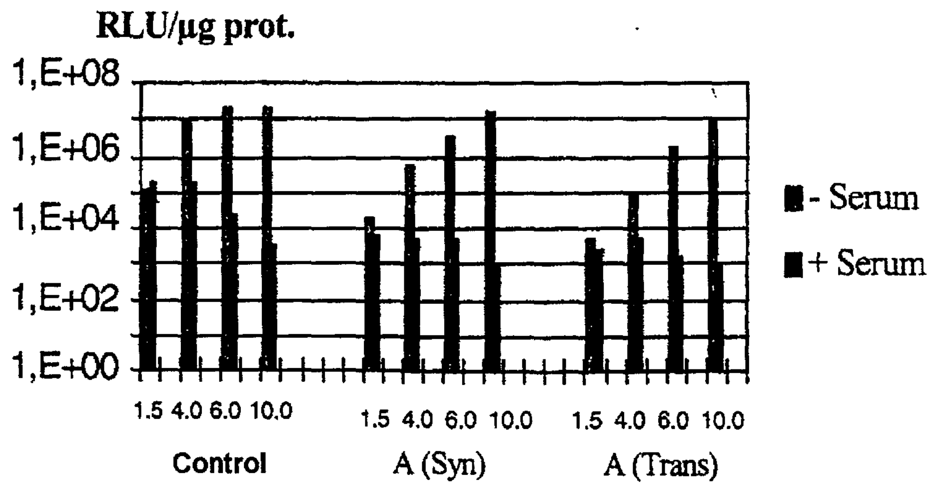


Fig. 2

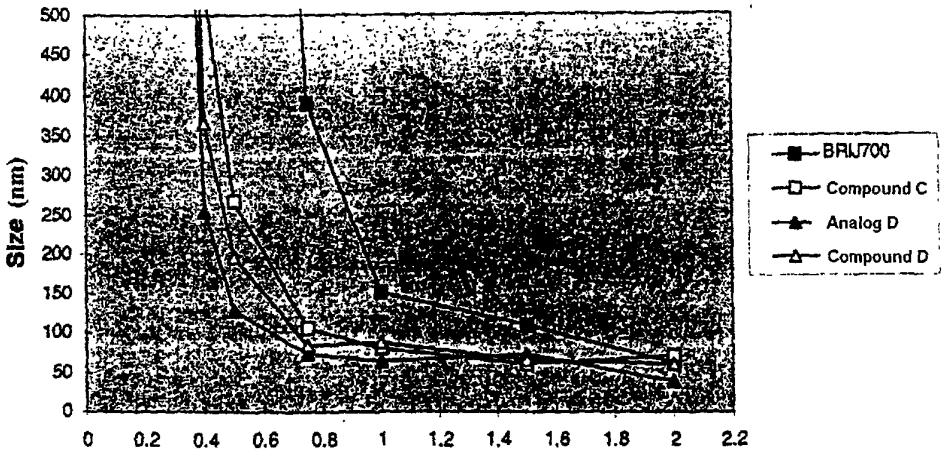
Efficiency of transfection *in vitro*



DNA/control cationic lipid complexes at different charge ratios

Fig. 3

Stabilization of the nucleolipid complexes by compound C, compound D, BRIJ700 or analog D



Weight/weight ratio with the DNA

Fig. 4

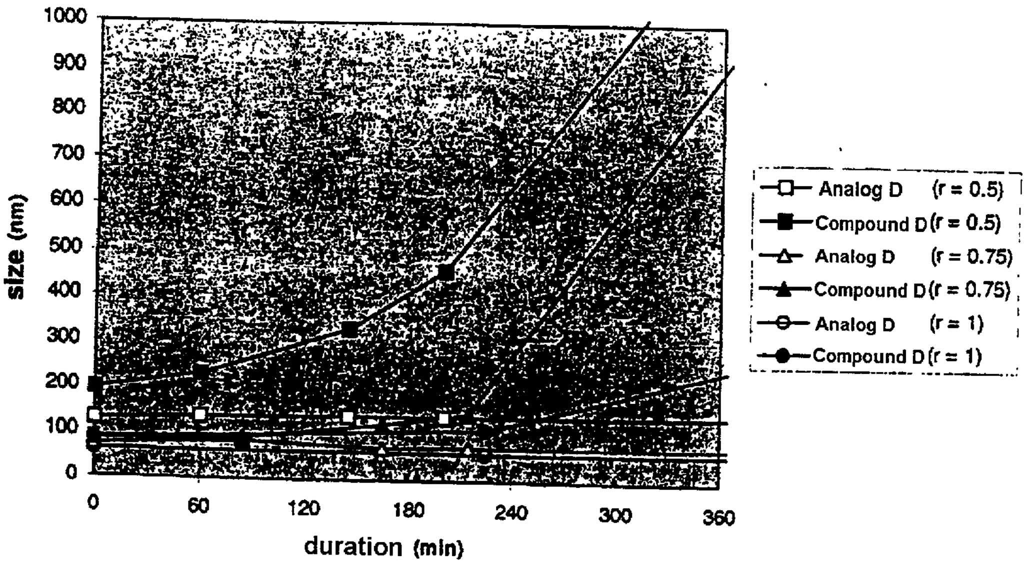

size (nm)
1000
900
800
700
600
500
400
300
200
100
0
0
60
120
180
240
300
360
duration (min)
Analog D (r = 0.5)
Compound D (r = 0.5)
Analog D (r = 0.75)
Compound D (r = 0.75)
Analog D (r = 1)
Compound D (r = 1)

Fig. 5

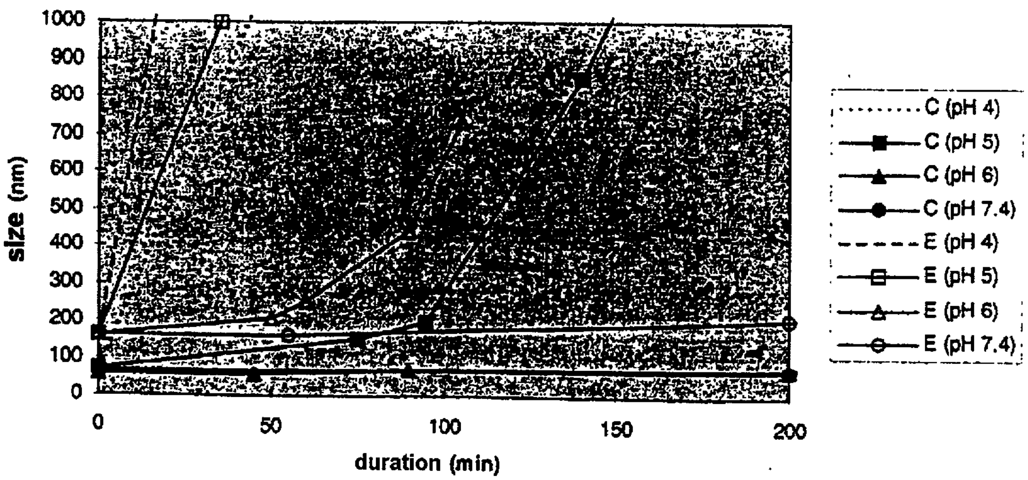
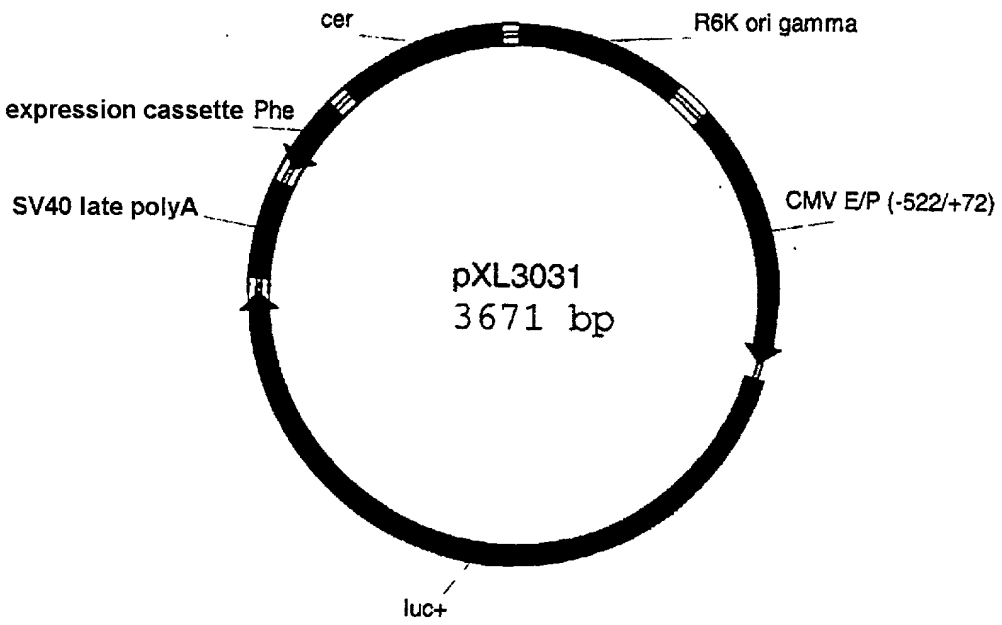

1000
900
800
700
600
500
400
300
200
100
0
size (nm)
0
50
100
150
200
duration (min)
C (pH 4)
C (pH 5)
C (pH 6)
C (pH 7.4)
E (pH 4)
E (pH 5)
E (pH 6)
E (pH 7.4)

Fig. 6



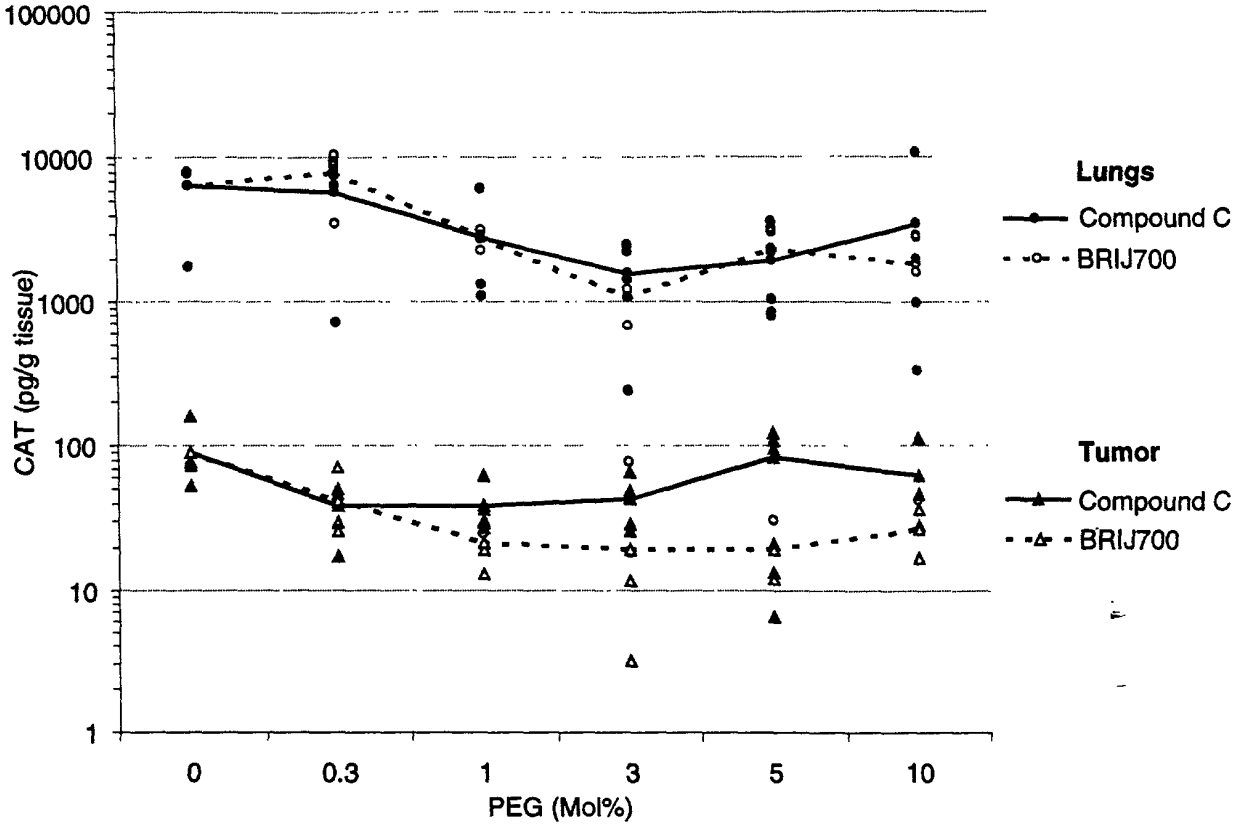


Figure 7: *Dose response of pH labile C18-PEG$_{5000}$ (Compound C) on gene transfer activity in vivo mediated by a cationic lipid/DOPE/DNA (5/5/1) complex. Non-degradable C18-PEG$_{5000}$ (BRIJ700) was used as a negative control. Data are mean (lines) and individual values of 4 Balb/C mice bearing subcutaneous M109 tumor.*

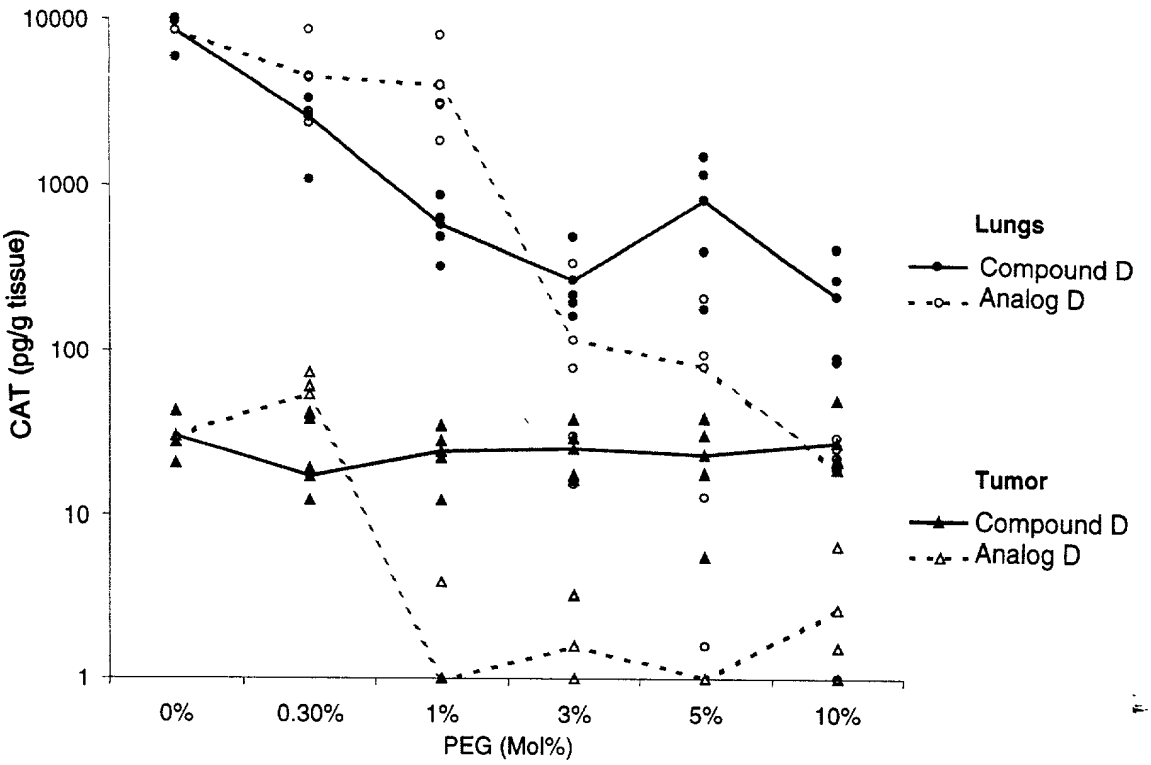


Figure 8: Dose response of pH labile cholesterol-PEG_{5000} (Compound D) on gene transfer activity in vivo mediated by a cationic lipid/DOPE/DNA (5/5/1) complex. Non-degradable cholesterol-PEG_{5000} (Analog D) was used as a negative control. Data are mean (lines) and individual values of 4 Balb/C mice bearing subcutaneous M109 tumor.